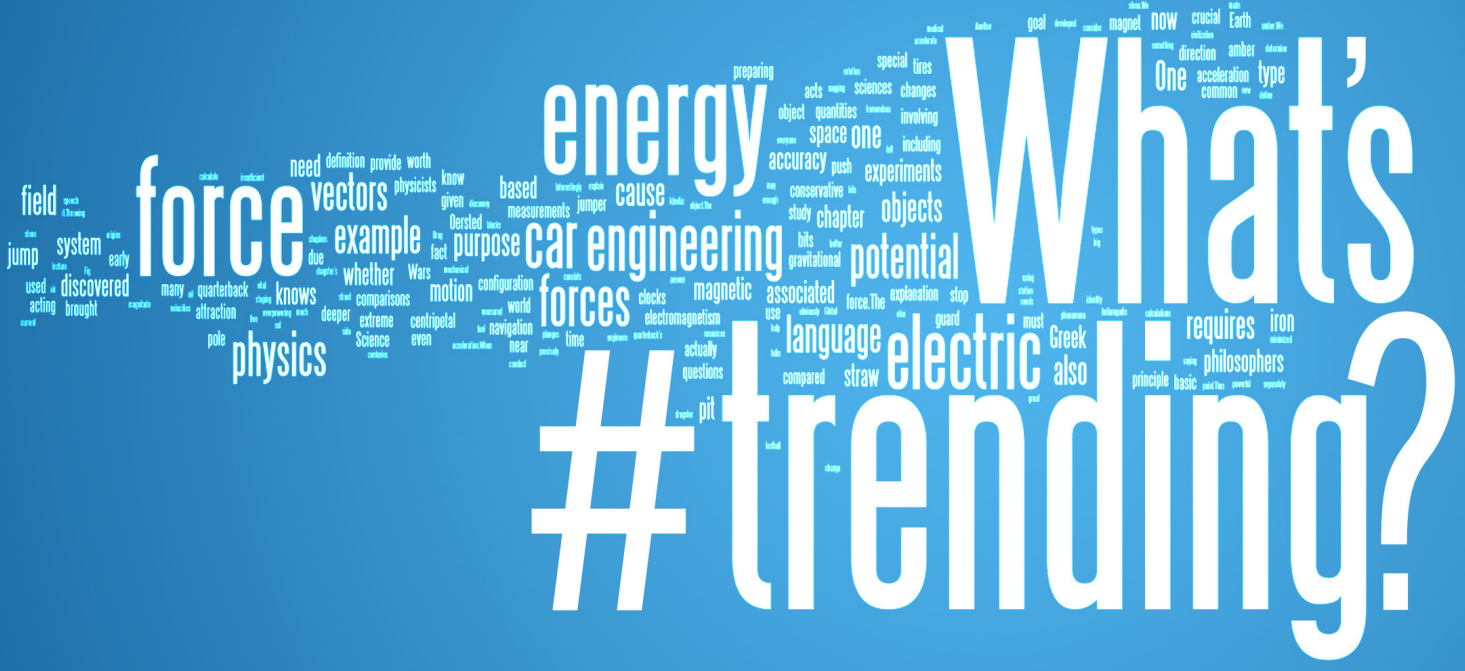
SPRING 2013

vector



What engineers these days are thinking

CONTENTS

Trending: Moustaches

Back to the Future: Vector Edition

Dear Reader,

A HUNDRED YEARS AGO, the world was entirely different. Ford's Model T had just gone into mass production; household electricity and plumbing were luxuries; America gained its 47th and 48th states. Life was simple, and while people in 1912 surely speculated about the future, they could not have imagined how much life has changed since then. Over the next ten decades we saw two world wars, the invention of television and MP3 players, the denim-as-pants fashion revolution, and the entire lifetime of Michael Jackson. Can you imagine what life will be like another century from now in 2112?

In this winter issue of Vector, our staff decided to divide and conquer the impossible task of predicting the future. We were curious to see what life would be like in 2112 and weren't willing to wait a hundred years to find out. After doing difficult research and asking professionals some very strange questions, our staff invites you to learn about our predictions for the year 2112. We may not be psychic, but we are certainly engineering students with overactive imaginations.

This issue, we've also had some help from Cockrell School Student Organizations and would like to thank them for their contributions. Keep an eye out for your society representative's name in the bylines, and be sure to read about what other engineering organizations have been up to! As always, if you have questions, comments, or would like to join the Vector staff, please contact us at vector@sec.engr.utexas.edu. We would love to hear your critiques and some of your own theories about the future. So go ahead, turn the page--we'll see you there in 2112!

Hook 'Em!

Arnold Hechanova and Lucy Xie, Editors-in-Chief
vector@sec.engr.utexas.edu

Vector is the student engineering magazine on campus. Published by the Student Engineering Council, Vector is completely written, managed, and designed by students for students. With issues dating back to 1971, the magazine has a long-standing tradition of serving as the voice for engineering students at the University of Texas at Austin. The Vector staff publishes two issues per semester.

For more information regarding the Vector magazine, please contact us at vector@sec.engr.utexas.edu.

The Master Plan

The future of the Cockrell School

Stephen Wendorf, CAEE UAB

2012 MARKS THE YEAR that UT's Cockrell School of Engineering has made a major commitment to its future through the soon to be constructed Engineering Education and Research Center (EERC).

The three pronged plan of the EERC is to "transform education, drive innovation, and build community." The EERC seeks to transform the educational experience of the students by expanding laboratory facilities and greatly improving the electrical and computer engineering facilities far beyond the scope of the outdated Engineering Science Building (ENS). These labs, matched with programs which integrate engineering, business and natural science disciplines, will give students the resources needed to become the innovators of tomorrow.

In addition the EERC will finally supply Cockrell with a much needed central location where students of the college can relax, study and meet up. A space like this is virtually non-existent within the Cockrell School's current facilities. These improvements will help to greatly improve student life within the Cockrell school.

In effect the soon to be constructed EERC project will add lasting value to the education of engineering students after the majority of today's current students have graduated. As students who may never see the completion of the EERC while at UT, we can be reassured upon leaving UT that the right resources are in place to continue to allow future students to continue to say: "What starts here changes the world."

Vikram Sripadam, HKN

THE COCKRELL SCHOOL of Engineering encompasses many different engineering disciplines and the various buildings associated with them. While every building is somewhat unique, they all carry with them a rich history, and for a quite a few of them that history is beginning to show.

The "Master Facility Plan for the Cockrell School" is a 10 year plan to for renovation, addition, or total rebuilds of the engineering facilities. The first of these building is going to be the EERC or Engineering Education and Research Center slated to start construction in late 2013. The EERC can be seen as a massive expansion of the ENS which requires the tearing down of the building itself and the removal of the two portable buildings adjacent to it (ACA and CSA). The ENS is described as a "large and obsolete building on a very strategic site" by the engineering website. Its renovation is clearly paramount and would help improve student life and academic standing.

The EERC is slated to cost $290 million with $100 million in philanthropic support. The price tag is quite hefty when compared to the Bill and Melinda Gates Computer Science complex which is reported to cost $120 million. The EERC will encompass three separate buildings and will foster development in the various research areas under the discipline of electrical engineering. The master facility plan will bring upon an exciting time for the electrical engineering department and the Cockrell school as a whole.

Computer rendition of EERC exterior

Computer rendition of EERC interior


REDUCE
25%
GREENHOUSE GAS EMISSIONS
IMPROVEMENT
5.5%
WATER CONSUMPTION
IMPROVEMENT
17.2%
WASTE GENERATION
INCREASE
6%

An Architect Among Us

Nathan Simmons

THE TOWER is one of the most recognizable structures on campus.

Completed in 1937 and designed by Paul Cret, the building, unsurprisingly considering those times, faced opposition before a single brick could be laid in its construction. Not only would it cost a great deal of money (it took a rare $1.8 million loan from the Works Progress Administration to even get it started), it would also supplant the old Victorian-Gothic Main Building, a structure that still held a strong sentimental value to alumni since it had been there at the time of the university's founding. Fortunately, Cret persuaded the building committee of the Board of Regents to go through it, creating the most recognizable landmark at the University of Texas.

Since its conception, the Tower has been a symbol of this university, on par with the Longhorn, Bevo, and "Hook 'em." Standing at a height of approximately 307 ft (94 m), the building has lasted the past seventy-five years without suffering much decay. Built with Texas gray granite and Indiana limestone, the structure has for the most part been quite durable. Save for corrosion on the north face of the building due to it being in the shade most of the time which allows for moisture to stay there and rust the windows, the Tower has been able to survive three quarters of a century without showing too many signs of severe aging. While no one would mistake it for a modern, 21st-Century building, this structure still looks good.

Check out the Architectural Engineering Institute's website at http://www.caee.utexas.edu/org/aei. There will be a new blog post every month.

Since its conception, the Tower has been a symbol of this university, on par with the Longhorn, Bevo

Star of SXSW

Casey Lastname??

THE NAME South by Southwest (SXSW) has been a name almost synonymous with Austin itself. A local interactive festival and conference, SXSW is a chance for thousands to launch their careers, whether it is in the music, film, or technology industry. Many headline names began in the heart of Austin during this conference, including sites: Twitter and Foursquare; musicians: John Mayer, Foster the People, and Nora Jones; and films: The Hurt Locker and Bridesmaids. It is a time where locals and out-of-staters alike come together and experience the excitement, innovation, and even vulnerability to some extent, of start-ups and no-name bands. As an interactive and unique experience, SXSW doesn't just host these companies or artists; it gives them the opportunity to expose themselves.

The place where start-ups can expose themselves to open-minded individuals, artists can express themselves to listening ears, and directors can give voices to unspoken stories.

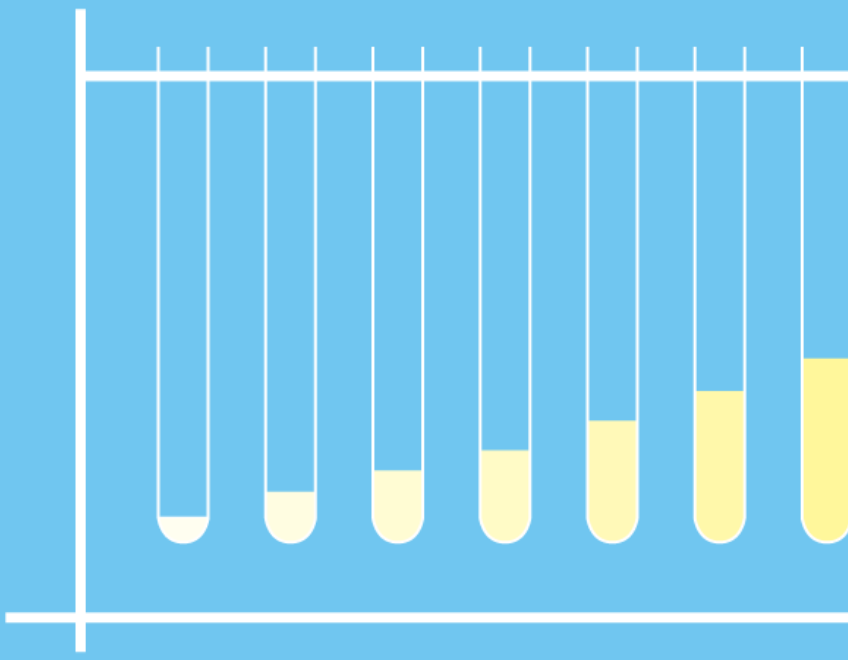
SXSW first began in Austin in 1987 as a way for people to come together and develop their brand or exchange ideas. While Austin may have not been as large of a city as it is now, SXSW helped put Austin on the radar as a city fostering the growth of the music and arts. Much of the reason why Austin is a perfect location for the festival and conference is that it is so accepting of new and different ideas. In addition, many artists in the South had struggled to begin their careers due to the fact that the South in general and Texas in particular are so expansive and geographically dispersed. By centralizing everything in Austin, people were encouraged to come in from the local, national, and even international level. By serving as a creative outlet for many, SXSW has grown dramatically from 700 participants at its launch to over 16,000 today, bringing in interest worldwide.

Much of SXSW's success could also be attributed to the fact that several social networking sites were released or promoted at the conference—notably Twitter. As a platform where people can easily track what's trending, Twitter could be called the breakout star of SXSW. It is perhaps the best example of the success that could be obtained through SXSW, an example which in its wake, many companies are sure to seek. Beginning as a small company that promoted the idea of "micro-blogging," Twitter provided a satisfaction for the human interest in each other's lives on an instantaneous basis. At its start, Twitter branded itself at the conference through a giant TV display flashing tweets to all attendees; traffic dramatically increased from 20,000 to 60,000 tweets. From its promotion at SXSW, the site only grew exponentially, bringing in millions of users worldwide. Without its moment of mass publicity at the conference, Twitter may not have become the universal name that it is today.

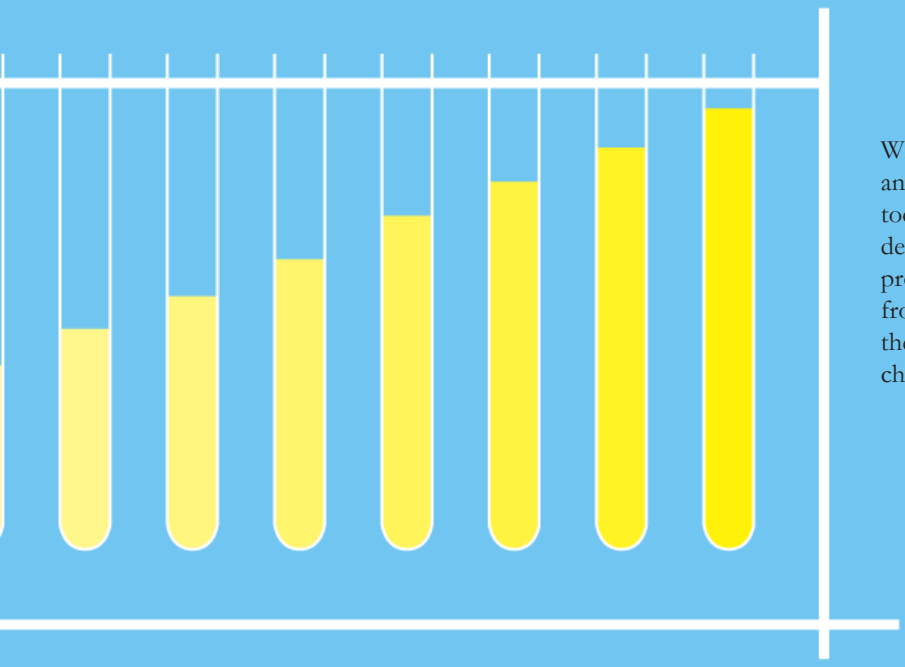
The scale and impact of promoting oneself at SXSW is almost inconceivable until success has long been attained and established. Twitter is an excellent example of how one company created a brand for itself through the conference, drawing attention to itself in a most engaging manner. The festival and conference has become the place where start-ups can expose themselves to open-minded individuals, artists can express themselves to listening ears, and directors can give voices to unspoken stories. SXSW has grown into an intensely interactive experience, allowing bright individuals to establish their futures, and will continue to do so for many years to come.

The festival and conference will be held in Austin, TX, during March 8-17, 2013, with the Interactive, Film, and Music portions present during their time-specific days. More information can be found at sxsw.com.

What's T



Trending?



What's up in the heads and lives of engineers today? We asked undergrads, grad students, professors, and alumni from the University for their thoughts in 140 characters or less.

Vector @Vector
How would you describe #engineering in 5 words?

Ravel Thai @RavelThai
Problem-solving, challenging, innovative, analytical, and #fun. #EE02 #BackForGradSchoolEE05

Vanessa Aquilar @VanessaAguilar
Innovation. Problem-solving. Technology. Development. Discovery #BME'09 #MoreBME'13

Cyrus Iqbal @CyrusIqbal
Rewarding, engaging, difficult, creative, evolving #PGE'14

Eddie Chen @EddieChen
Demanding. Stimulating. Innovative. Frustrating. Promising #ChE'15 #Finance'15

Deborah Hempel Medina @DeborahHM
Methodical, fact-seeking, #fun (yes, fun), makes the world work #PGE'93

Felipe Lopez @FelipeLopez
Innovative, creative, exciting, practical, interesting #ME'09

Lydia Contreras @LydiaContreras
Innovative. Imaginative. Creative. Challenging. Exciting #ChE'03 #PrincetonDegree

Stephen Riutta @StephenRiutta
Logic. Creativity. Application. Persistence. Quantification #ME'13

Jane Vinogradova @JaneVinogradova
mercurial, consuming, essential, boss, #messy #BME'14

David Nguyen @DavidNguyen
Studious, hardworking, #boring, math-oriented, and logical. #ASE'08 #MastersASE'11

Mikey Phan @MikeyPhan
Challenging, sleeplessness, innovating, #mathy, rewarding. #ChE'13

Paul Bommer @PaulBommer
Integrity. Honesty. Curiosity. Persistence. Diligence #BsPGE'76 #MsPGE'77 #PhDPGE'79

David DiCarlo @David DiCarlo
You better like math alot (I know I cheated on that last word) #Physics'87

Matt Hall @MattHall
Innovation. Creativity. Complexity. Insight. Rigor #PhDfromPrinceton

Ali Barton @AliBarton
Innovative, Problem-solving, Impactful, Interesting, and #Fun! #CE'13

Spencer Tang @SpencerTang
It is not for everyone. #EE'04

Tweets @EngineersHumor

Engineering Humor @EngineersHumor Feb 22
Literate in Microsoft Excel. Illiterate in English. #engineeringproblems
Expand

Engineering Humor @EngineersHumor Feb 21
You know you're an engineer when you have no life and can prove it mathematically. #engineeringproblems
Expand

Don McMillan @donmcmillan Feb 20
Engineer's have their own corporate dress standards. Here's your guide... #EngineersHumor #Engineers pic.twitter.com/EHJeaEXo
Retweeted by Engineering Humor
View photo

Engineering Humor @EngineersHumor Feb 20
I don't always do my engineering homework alone, but when I do, I get stuck on the first problem and give up. #engineeringproblems
Expand

Engineering Humor @EngineersHumor Feb 19
I'm not sure which I love more: science or being right.
Expand

Engineering Humor @EngineersHumor Dec 19
I'm not sure which I love more: my calculator or my smartphone.
Expand

Engineering Humor @EngineersHumor Dec 18
It's getting harder and harder to idiot-proof something. Evolution has provided us with a very smart idiot.
Expand

Engineering Humor @EngineersHumor Dec 17
Does drinking coffee count as studying fluid dynamics?
Expand

Engineering Humor @EngineersHumor Dec 14
Only in engineering, can you fail an open book open notes exam.
Expand

Engineering Humor @EngineersHumor Nov 12
That feeling of terror when someone says they got a different answer on a test question.
Expand

Engineering Humor @EngineersHumor Nov 10
Weekends are just days with extra time to procrastinate.
Expand

Engineering Humor @EngineersHumor Nov 9
The worst part of any engineer's job is dealing with other engineers. #Truth
Expand

Engineering Humor @EngineersHumor Nov 8
Having to use the calculator on your smart phone #engineeringproblems
Expand

Engineering Humor @EngineersHumor Nov 7
In a landslide victory, the metric system wins!
Expand

Engineering Humor @EngineersHumor Sep 12
It's one of those days when I feel like I'm in a Dilbert cartoon. #FML
Expand

Engineering Humor @EngineersHumor Sep 12
Everyone that comes to my office brings me pleasure. Some when they enter, some when they leave.
Expand

Engineering Humor @EngineersHumor Sep 12
If you want calculus done correctly, ask an engineer. If you want algebra done correctly, ask an 8th grader.
Expand

Engineering Humor @EngineersHumor Sep 11
That one student that always asks the professor 50 questions when class was about to get out early. #engineeringproblems
Expand

Vector @Vector
How often do you apply what you learned in college?

b

Frequency of Application of Stuff Learned in College

@AliBarton
Every day. If I'm not directly using the technical knowledge, I'm using problem solving and decision making skills that I gained during my time as an undergrad.

@PaulBommer
Every day.

@MattHall
Every day

@DavidDiCarlo
Every day. Especially when students ask questions.

@LydiaContreras
What I apply on an everyday basis (more than specific concepts) is how to think through problems, analyze data and gain an intuition for physical processes around me.

@FelipeLopez
Every day. I often have to use some other techniques that are a little more advanced but it is always important to remember the fundamentals learned in college.

@RavelThai
I learned the fundamentals in college that can be applied to work everyday

@DeborahHM
It depends. Inside or outside of class?

@SpencerTang
not often.

@JaneVinogradova
almost never, every project I have done has required outside research... sometimes I like to throw a fact here and there to explain to kids why they shouldn't point lasers in their eyes (it will burn your fovea and ruin your visual acuity forever!)

@StephenRiutta
Some subjects are used more frequently than others, but they all provide a good foundation.

@VanessaAguilar
Mostly everyday

@MikeyPhan
Quite often, just random applications, like microwaving food.

@DavidNguyen
about 75% of the time

Less Often — More Often

Vector @Vector
Where did you get your motivation?

Ravel Thai @RavelThai
From peers, teachers, mentors, and industry-leaders

Vanessa Aquilar @VanessaAguilar
Finding answers to solutions

Cyrus Iqbal @CyrusIqbal
I was born with it #Maybelline

Eddie Chen @EddieChen
Knowing that there is a high paying job for me when I graduate

Deborah Hempel Medina @DeborahHM
Parental “encouragement”

Felipe Lopez @FelipeLopez
Mainly curiosity.

Lydia Contreras @LydiaContreras
I got my motivation while growing up and observing the world around me; particularly all the basic problems that affect affect poorer countries and economically disadvantaged people in our communities.

Jane Vinogradova @JaneVinogradova
I found the research field that I want to contribute to, that’s the whole point of going to college (besides graduating)

David Nguyen @DavidNguyen
#money was the motive, or lack thereof!

Mikey Phan @MikeyPhan
My parents taught me the value of #hardwork. My AP chem teacher in high school showed me what chemistry and by extension chemical engineering could be.

David DiCarlo @David DiCarlo
#Family - I have 3 boys

Matt Hall @MattHall
From reading of problems people face in making their lives better through technology

Ali Barton @AliBarton
From working on projects where I can see the impact I make, as well as working on things I have an enthusiasm for.

Spencer Tang @SpencerTang
My dad and mom

Tweets @engineerproblem

engineering problems @engineerproblem 6 hrs
Get unnecessarily excited when the clock reads 3:14. #engineeringproblems
Expand

engineering problems @engineerproblem 20 hrs
Optimist says its half full, pessimist says its half empty. The engineer says some idiot made the design too big. #engineeringproblems
Expand

engineering problems @engineerproblem Feb 21
Open book, open notes. Hardest test ever. #engineeringproblems
Expand

engineering problems @engineerproblem Feb 20
Double the monitors. Double the fun. #engineeringproblems
Expand

engineering problems @engineerproblem Feb 19
You want to be mechanical? We're going to make you take EE, ChemE and CE courses too. It'll make you well rounded. #engineeringproblems
Expand

engineering problems @engineerproblem Feb 19
Calculated lab result is off by 200%. Human error. Making lab write ups easier. #engineeringproblems
Expand

engineering problems @engineerproblem Feb 8
Knowing the answer in a discussion section but not answering it. #engineeringproblems
Expand

engineering problems @engineerproblem Feb 4
Writing the square root symbol last because you never know how long it's going to be. #engineeringproblems
Expand

engineering problems @engineerproblem Feb 4
not an engineer problem “@IEEEorg: The best paying college majors are mostly in #engineering huff.to/11J8QQP via @HuffingtonPost”
View summary

engineering problems @engineerproblem Feb 4
Having the opportunity to get ahead in your work but never seizing it. #engineeringproblems
Expand

engineering problems @engineerproblem Jan 31
Awkwardly sliding/falling past students in the tiniest lecture hall ever built. Can we get some leg room? #engineeringproblems
Expand

engineering problems @engineerproblem Jan 31
Constantly being on the lookout for poorly designed products so you can laugh at the stupid engineer who thought it up. #engineeringproblems
Expand

engineering problems @engineerproblem Jan 31
You're not good at excell? I feel bad for you. Good luck with the next forever years of your life. #engineeringproblems
Expand

engineering problems @engineerproblem Jan 31
A handout? What is the 6th grade? I don't mind though. #engineeringproblems
Expand

engineering problems @engineerproblem Dec 17
Cheat sheets. Putting a semesters notes onto an 8.5x11. #engineeringproblems
Expand

engineering problems @engineerproblem Dec 17
Check facebook to procrastinate. Do ten minutes of work. Go back to Facebook. Wtf am i doing with my life!? #engineeringproblems
Expand

engineering problems @engineerproblem Dec 16
Your final is after the weekend? Forget about it. #engineeringproblems
Expand

engineering problems @engineerproblem Dec 12
treating this final like a debate. "great question professor, but let me write down something completely unrelated i actually remember
Expand

engineering problems @engineerproblem Dec 11
Review sessions. Confirming your fear that you know nothing. #engineeringproblems
Expand

Vector @Vector
What's the most important trait for an engineer to have?

Ravel Thai @RavelThai
Strong analytical skills

Vanessa Aquilar @VanessaAguilar
Problem solving ability

Stephen Riutta @StephenRiutta
Problem-solving abilities

No problem can be solved from the same level of consciousness that created it.
Albert Einstein

Ali Barton @AliBarton
Their ability apply logic and a type of straightforward attitude to just about everything in life.

David Nguyen @DavidNguyen
They're grounded and calculated!

Weakness of attitude becomes weakness of character.
Albert Einstein

Felipe Lopez @FelipeLopez
Probably curiosity. If you are curious about something, you will want to know how it works and then you will want to make it better.

Jane Vinogradova @JaneVinogradova
benevolence and curiosity

I have no special talent. I am only passionately curious.
Albert Einstein

Cyrus Iqbal @CyrusIqbal
Ingenuity

Matt Hall @MattHall
Creativity backed by fundamental understanding of how things work

Lydia Contreras @LydiaContreras
Ability to work with others, being exact and accurate, creativity, ability to think about the box

Imagination is more important than knowledge.
Albert Einstein

Eddie Chen @EddieChen
Dedication, perseverance, and an open mind.

Spencer Tang @SpencerTang
Persistence

It's not that I'm so smart, it's just that I stay with the problems longer.
Albert Einstein

Mikey Phan @MikeyPhan
Honesty. Engineers who lie can hurt or kill people, so they must stay honest in whatever they do. #RealTalk

David DiCarlo @David DiCarlo
No pretensions

Paul Bommer @PaulBommer
Honesty

Anyone who doesn't take truth seriously in small matters cannot be trusted in large ones either.
Albert Einstein

Deborah Hempel Medina @DeborahHM
Quirky

A question that sometimes drives me hazy: am I or are the others crazy?
Albert Einstein

Vector @Vector
If you weren't an #engineer, what other career would you have chosen?

Ravel Thai @RavelThai
Something in #business

Vanessa Aquilar @VanessaAguilar
Scientist

Cyrus Iqbal @CyrusIqbal
Medicine :)

Eddie Chen @EddieChen
#Business - FInance

Deborah Hempel Medina @DeborahHM
Lotto Winner? If not then a life coach

Felipe Lopez @FelipeLopez
I would have probably studied mathematics or economics

Lydia Contreras @LydiaContreras
Can't imaging doing anything else! #engineerforlife

Stephen Riutta @StephenRiutta
Materials scientist

Jane Vinogradova @JaneVinogradova
fashion design/styling/inventor

David Nguyen @DavidNguyen
doctor

Mikey Phan @MikeyPhan
Jackie Chan's stuntman, slight bigger though!

Paul Bommer @PaulBommer
I would not choose anything else. #engineerforlife

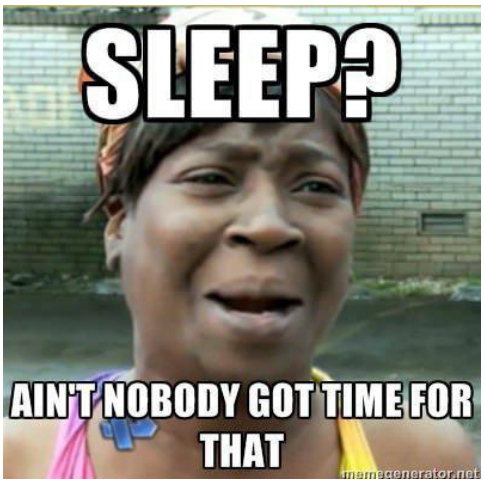
David DiCarlo @David DiCarlo
Major Leaguer

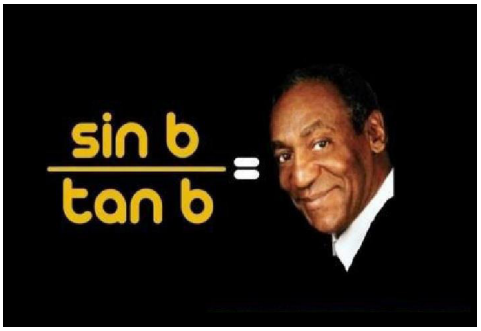
Matt Hall @MattHall
Hard to say, perhaps an economist.

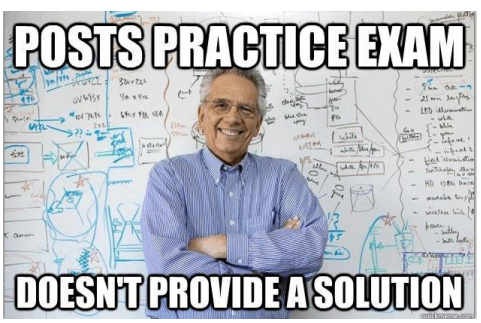
Ali Barton @AliBarton
Ecology or some type of study of animals. Nature fascinates me.

Spencer Tang @SpencerTang
Economics or #business of some sort

Engineering Memes







Vector @Vector
What class in college did you find the most useful?

Ravel Thai @RavelThai
Logic Design with Charles Roth #EE316

Vanessa Aquilar @VanessaAguilar
Math

Cyrus Iqbal @CyrusIqbal
Organic Chemistry

Eddie Chen @EddieChen
Transport phenomena and MIS 301

Deborah Hempel Medina @DeborahHM
Most fun was Dr. Speck's architecture class

Felipe Lopez @FelipeLopez
Control Theory 2. I am glad I took that elective because I see those topics every day now.

Lydia Contreras @LydiaContreras
The Introduction to Chemical Engineering course really solidified my interest in the subject

Stephen Riutta @StephenRiutta
Control of dynamic systems

Jane Vinogradova @JaneVinogradova
Physiology for Pre-Meds/Engineering Communication

David Nguyen @DavidNguyen
Physics and propulsion

Mikey Phan @MikeyPhan
Engineering Economics because it teaches you the basics of finance, budgeting, taxes, and investing, although 8ams were killer!

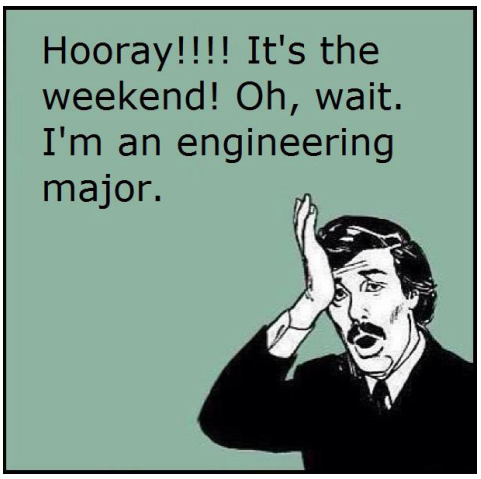
Paul Bommer @PaulBommer
transport phenomena

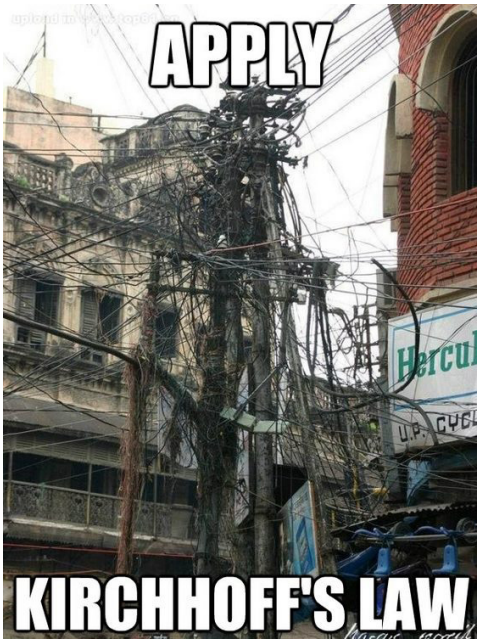
David DiCarlo @David DiCarlo
Electricity and magnetism

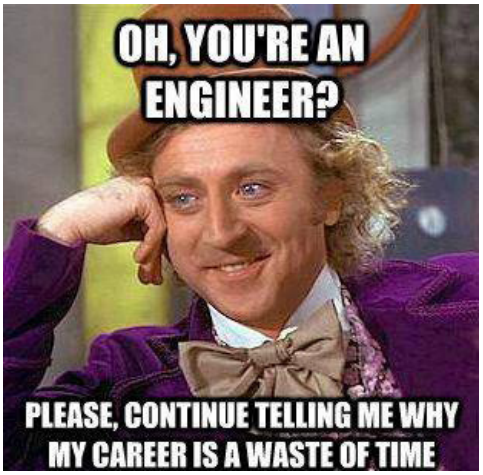
Ali Barton @AliBarton
The class that really made things 'click' for me was Introduction to Environmental Engineering

Spencer Tang @SpencerTang
Electronic circuits

Engineering Memes







Understanding the Underserved

The World is Only as Strong as its Weakest Link

Kristen Siegele

TWO WORLDS ARE COLLIDING in an effort to better the lives of citizens in the community. The School of Social Work and the Cockrell School are teaming up in order to make their combined efforts more effective. Engineering and social work students alike who want to benefit the global community through innovation and design have initiated a new project, Projects for Under-served Communities (PUC), where the two groups combine their strengths to better the lives of those less fortunate.

The faculty members spearheading this project are Professor Janet Ellzey and Professor Dorie Gilbert with the help of Professor James O'Connor. PUC attempts to utilize the skills of the students in both schools by pairing engineering projects with community outreach programs. This is done in the hope that the local populace is better prepared and better informed on how to take advantage of the new infrastructure. The program requires three semesters of dedication from the students to train and prepare before executing their plans. These steps are taken so that these joint projects to have lasting success. An entire year is devoted to preparation for the project. The social work students spend the fall meeting with engineering students to flesh out the scope of the future project. In the spring, engineering students take a technical design course while the social work students come up with ideas to introduce the plans to the underdeserved community. Areas these students have served include Peru and Ghana, in some of the most beautiful regions of the world. It's an amazing experience in which students can give back while simultaneously gaining valuable life lessons. The members of PUC learn about community organizing, leadership, and teamwork through philanthropy. In addition, these students have the rare opportunity of being immersed in a new and enriching environment.

It's an amazing experience in which students can give back while simultaneously gaining valuable life lessons.

With these valuable skills, students at UT get an opportunity to explore their potential and give back to a variety of global communities. Citizens across the countries of Ghana or Peru will have benefitted from the results of PUC projects, such as installed electric wells or efficient plumbing systems. Though these two schools may initially appear to have little in common, their ambitions stem from a deep desire to positively impact the world. Whatever the project, wherever the neighborhood, giving back is something that will always be trending here at the University of Texas.

Students developed a water system for 500 students in a school in Santa Cruz, Peru

Engineering Route to Business

Science & Technology Management

Richard Fang

TRADITIONALLY, business and engineering are extremely different majors with almost no overlap in of areas of expertise or focus. This can (and has) formed somewhat of a rift between to the two majors. Many business majors do not fully understand engineers and vice versa. But that is perfectly okay, society needs good engineers and good businessmen. However, many situations require these different professionals to communicate with one another for a shared benefit (e.g. an oil company where the financial staff and engineers are trying to work out a budget and set goals.) Because engineers and businessmen basically speak different languages and have unique dictionaries of technical jargon, such communication can be extraordinarily difficult, with neither party fully understanding the other. At times like these, someone is required to bridge the gap.

Students interested in holding such a position have several options. Many choose to focus on engineering while also enrolled in the Business Foundations Program; others choose to double major in both engineering and business. However, there is a major tailored specifically for those who wish to enter the workforce with the knowledge and education necessary to bridge the two different disciplines. Science & Technology Management (STM) (formerly known, and still often referred to, as Engineering Route to Business, ERB), provides a degree plan that is designed to meet the demand for technologically adept graduates with experience in both engineering and business. Simply put, students who graduate from this program are thoroughly prepared to manage and offer business insights in technical engineering environments.

Graduates from this program are sought out for traditional business and engineering roles, as well as positions that are unique to STM degree holders. Because of the vigorous education they receive in both fields of study, STM graduates are often sought after by oil companies such as Exxon and BP to fill ositions such as project control specialist or production and logistics manager. Of course, while some graduates will fill traditional roles like process engineer or financial analyst, a good number of them leave the University of Texas and go on to bridge the gap between engineering and business.

There is a major tailored specifically for those who wish to enter the workforce with the knowledge and education necessary to bridge the two different disciplines.

LeaderShape

Shapes more than just Leaders

Anvita Jain

When you hear the word LeaderShape, what is the first thought that comes to mind? Maybe you notice the play on words or maybe you think, "Oh, that sounds interesting; let me find out more!" As long as LeaderShape is not immediately synonymous with "resume-builder" in your mind, you are on the right track.

Without revealing too much, LeaderShape Texas is a week-long retreat organized by Cockrell School of Engineering Student Life that is offered twice a year, one week prior to the start of spring semester in January and the week following the end of spring semester in May. This year, due to generous funding from Chevron, sixty lucky students , including me, had the opportunity to attend the winter session which ran from January 5-10. Without exaggerating, I can honestly say it was the experience of a lifetime.

If you are anything like me, you like to know exactly what you are getting yourself into before you are ready to jump into anything. LeaderShape Texas is different from many other programs offered at UT in that its description is purposely kept vague; that is what makes it so effective. Furthermore, due to the nature of the program, LeaderShape is a unique experience for each participant. You could listen to all the stories you want about LeaderShape, and you will still not know exactly what LeaderShape is until you actually participate in it yourself.

LeaderShape is focused around its mission statement, "To expand the community of people who lead with integrity and have a healthy disregard for the impossible." Through an inside-out approach, LeaderShape goes much beyond its mission statement. As a participant, one needs to be ready for many things, like surprises, pushing boundaries, rewarding friendships, laughing until your stomach hurts, tears, interesting revelations, eye-opening life stories-but most importantly, one has to be ready to learn and grow. LeaderShape builds a community in which individuals thrive by having each person reflect on yourself, your life, your peers and the world around you more closely than he or she usually does. At times, one may even be out of their comfort zone but the key is to just go with the flow.

Besides the incredible knowledge that you gain in such a short amount of time, another valuable component of LeaderShape is friendships that you build. In an environment where everyone that is there betters themselves and has fun, close friendships are frankly inevitable. Right from day one, everyone starts building up trust in each other, so that no one is afraid to be vulnerable. I kid you not; there was one person there whom I was talking to like I would talk to my best friend over Skype after not having seen that friend for months. The difference was that I had only known this person for about 48 hours before this conversation. This isn't normal, but, at LeaderShape, it is.

Whether you decide to participate in LeaderShape to build your leadership skills, meet new people, or just have fun, be open to a world of possibility. Go in with an open mind and open heart, and you will come out with an experience of a lifetime.

Roden Leadership Program

Do Soon Kim

THE RODEN LEADERSHIP Program was founded in the Fall of 2001 with a generous gift from Mr. Ted Roden (B.S. Ch.E 1943). He wished to culture a sense of entrepreneurship, leadership, and service amongst the 21 members of Roden and the Cockrell School of Engineering. Since then, Roden has developed various signature programs and meets weekly in the ALEC room to brainstorm and implement new ideas for the Cockrell School of Engineering.

The structure of the organization is very flat, with members forming committees whenever projects come up. Although certain members have developed specialized skill sets, any member is invited to participate in any project if he or she wishes. Due to the flat structure of the organization, Roden encourages members to pursue their passion and also gain a wide variety of leadership and entrepreneurship skills through their exposure to various projects. Finally, the organization is dedicated towards serving the engineering school through its signature programs.

Currently, signature programs include Rodennovations, the New Engineering Student Workshop, the Roden Lecture Series, Roden Debates, and the Roden Case Competition. These programs challenge the regular engineering student to go beyond what is taught in classrooms, and exercise their creativity and problem solving intuition. Recently, the New Engineering Student Workshop drew more than 400 students entering the School of Engineering to presentations about succeeding in the classroom, excelling at EXPO, and exploring opportunities in the Cockrell School of Engineering.

Through brainstorming, emails, impromptu committee meetings, and Googledocs, members of Roden have worked to promote their core values of entrepreneurship, leadership, and service for the School of Engineering. For more information please visit www.rodenprogram.org . We'd love to hear any new ideas you might have for the CSE and work with you to implement them!

Members of Roden have worked to promote their core values of entrepreneurship, leadership, and service.

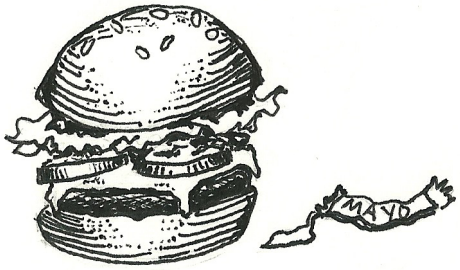
Vectortainment

Jokes only an engineer would find funny

Compiled and illustrated by Alex Colella

Personal experience

Calculus class:
teacher: "…and that's the formula for the Fourier series."
student: "So what ARE Fourier series?"
teacher: "It's a series that can represent anything we deal with in this class with a combination of sines and cosines. "
student: "Anything?" (as he takes a bite of a burger)
teacher: (wearily) "Yup, anything."
student: "So if there was a Fourier series that represented a big mac, an odd function would be one without mayo?"



Cat's Out of the Box

I had a moment of sheer panic. There was so much I could not understand in my physics course; so much in fact, that I was sure that I would fail my test tomorrow and the final the next week. In exasperation, I yelled out "I wish I could understand physics!"

"No Problem, I can help you with that," said a stranger from nearby. To my good fortune, the man was a skilled physicist with the time and patience to teach me. For the next 12 hours I learned more physics than I had learned in all of my previous courses combined. The next day I aced my test. I was so invigorated by my talks with the man that in the following year I managed to attain a minor in physics.

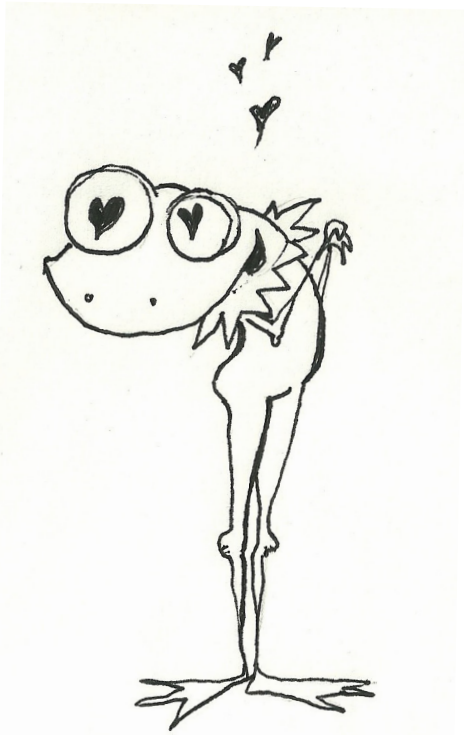
Unfortunately I did not get to thank the man until graduation, and even then it was a short distracted conversation with all the activity going on around us. So I asked him to write down his address so I could send him a gift for all he'd done for me.

Every year I sent him a present. I wrapped a box of the finest wine and sent it to that address, for twenty years. Until finally, our twenty year reunion united us.

After a few drinks and slide shows I spotted him. We chattered excitedly about the latest news in science, and he invited me to his house to check out the research he had been working on since college. Of course I was eager to see my idol's work. It was a small house, but when I walked in it felt even smaller. Floor to ceiling was filled sky high with every size and shape of box imaginable. The entire house was filled! After making our way through one room, I spotted a few of the boxes I had sent! And I couldn't contain myself.

"Why do you have such a ridiculous amount of boxes? And why did you never open any of the gifts I sent you? What kind of person are you!? WHO are you!?"

He reached out his hand to shake mine, realizing we had never formally met, "My name is Erwin. Erwin Schrodinger, nice to meet you."

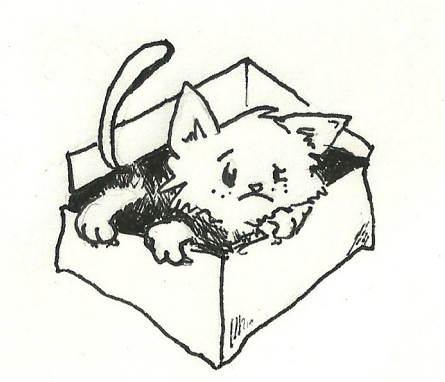


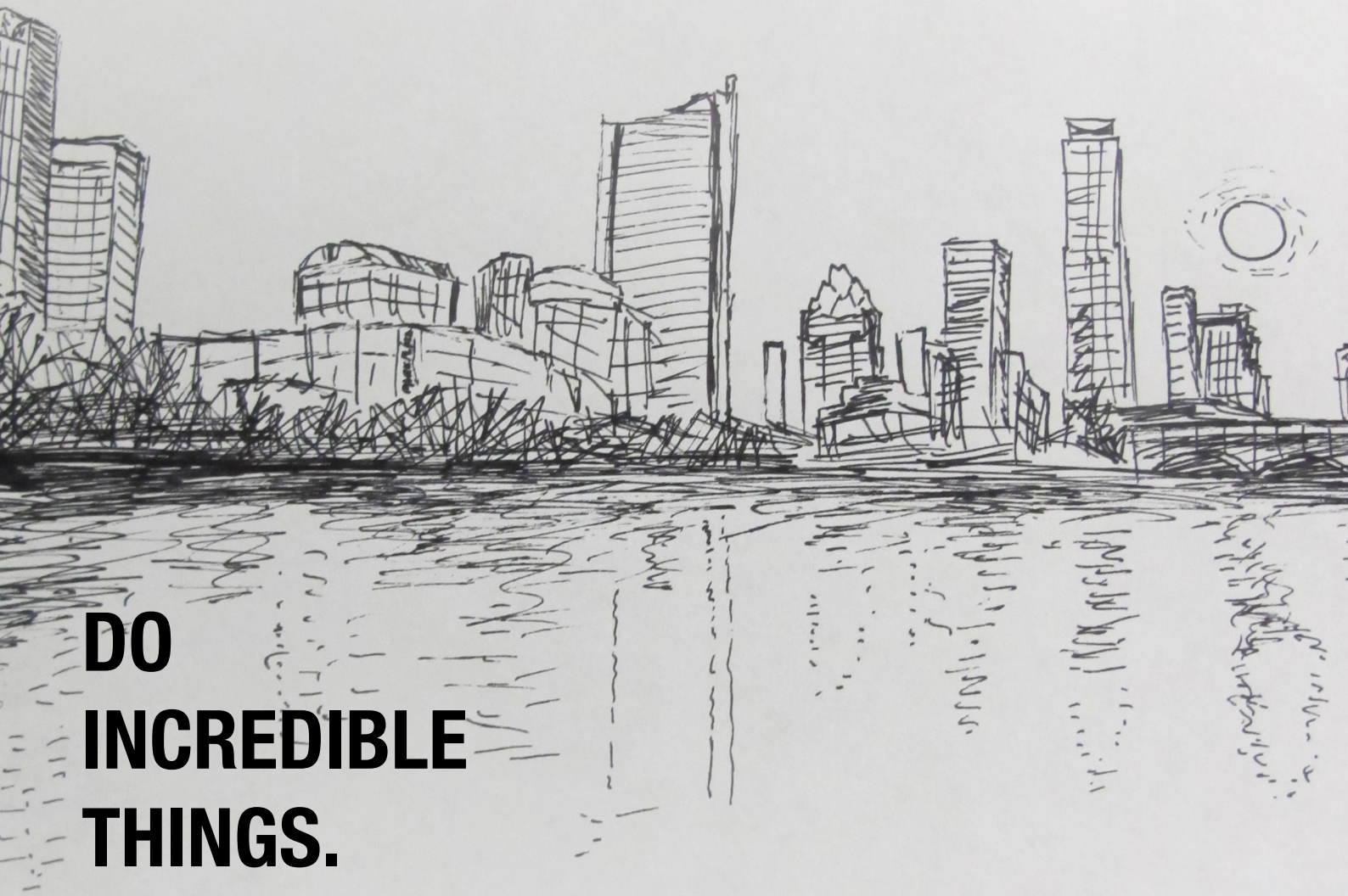
A Young Biologist

A little boy frog decides to contact a psychic. He calls up the hot line in the phone book. The Divine Psychic Madame Mally, informs him that he will soon meet a beautiful young girl who will want to know more about him than any other girl he has ever met. The frog, who had been down on his luck lately, was overjoyed at the news.

"This is fantastic; will I meet her below the shaded lily pads or on the sunny rocks overlooking the pond?!"

"No," Mally responded "in her Biology class…."





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